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1905.	July 28	122°	Farther side of Sun.
	Aug. 3	132½	Nearer side of Sun.
	Aug. 24	129½	Farther side of Sun.
	Aug. 30	140	Nearer side of Sun.

It is a question whether such disturbances of coronal matter have their origin in sun-spots or in the faculæ surrounding the spots. It would be interesting to know the times of greatest activity of the spot group in question, but the history of its development is not known to us. The most probable date of the disturbance was August 3d, when the sun-spot was on the nearer side of the Sun. On that date the spot had the same position as the apex. On August 24th, with the spot on the farther side of the Sun, the position-angles of the spot and apex differed 3°.

The form of structure within the disturbed region may be divided roughly into two classes: long, slightly curved streamers, and flocculent masses. The streamers contain no condensations or other details of structure capable of accurate measurement, as a basis for determining the velocities of the matter composing them. If the forms of the streamers are functions of the velocities within them, as considered by Professor SCHAEBERLE, the speed in question would be as great as several hundred miles per second.

A determination of the velocities of some of the flocculent masses near the limb, on the assumption that August 3d was the date of their ejectment, gives a value of 700 feet per second as the minimum radial speed. The masses farther from the limb would require velocities perhaps five times as great in order to carry them to their positions at the time of the eclipse. These results are in accordance with the conclusions based on velocity determinations during the interval of seventy minutes between the occurrence of the eclipse in Spain and Egypt. This determination showed that the velocity of the flocculent masses could not have been over one mile per second.

April, 1907.

W. W. CAMPBELL,
C. D. PERRINE.

RESULTS OF THE SEARCH FOR AN INTRAMERCURIAL PLANET AT THE TOTAL SOLAR ECLIPSE OF AUGUST 30, 1905.[1]

Owing to the existence of thin clouds during the eclipse of 1901 in Sumatra, the search for an intramercurial planet was not as complete as desired. It was made practically certain that there was no body as bright as the 5th magnitude in the region where such a planet would probably be, if one existed.[1]

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[1] Abstract from *L. O. Bulletin*, No. 115.

The eclipse of August 30, 1905, offered unusual advantages for continuing the search. It was possible to occupy three widely separated stations; the eclipse came at a season of the year when the chances for clear weather were excellent at two of these stations, and the duration was longer than the average.

The value of observations at two or three stations, in case a planet should be found, would be very great, for they would enable some idea of the orbit to be obtained. With an observation at only one epoch, nothing of the orbit could be learned, and subsequent re-observation would be very difficult. In any case, the determination of the orbit of such a body, from the infrequent observations that could be secured at eclipses, would present unusual difficulties.

It was therefore planned that each of the three expeditions, despatched through the generosity of Mr. WM. H. CROCKER, should be equipped with four photographic telescopes designed for efficiency in this problem.

With a few minor exceptions, the plans for securing the necessary photographs at each of the three stations were similar to those of 1901, which are fully detailed in *L. O. Bulletin*, No. 24. The only exceptions of importance were the restriction of the field to be searched, and the taking of the duplicate exposures at different times. The fields covered were 29° × 9° in the Spanish cameras, and 25° × 8¼° in the Labrador and Egypt cameras, the longer axis being parallel to the Sun's equator, as in 1901. The Sun was in the center of these regions.

The programme was carried out as planned at Alhama, Spain, and at Aswan, Egypt, although at the Spanish station there were thin clouds during all of totality. The four cameras at Cartwright, Labrador, had been made ready by Dr. CURTIS, but unfortunately the sky was densely clouded, and no observations were possible.

A hasty examination of some of the Spanish plates, at the station, revealed so few star images that the work was discontinued until the return of the expedition to Mt. Hamilton.

A careful examination revealed the images of thirty-six stars on the Spanish plates and nineteen stars on the Egypt plates. The fewer stars on the Egypt plates is explained by adverse conditions which overbalanced the effect of the thin clouds at the Spanish station.

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[1] *L. O. Bulletin,* Vol. I, 183, 1902.

All of the objects found were identified as known stars. The average faintest visual magnitude of the stars shown is 8.0. Assuming that the average planetary body would be one magnitude fainter photographically than the faintest stars on the plates, then any planet of 7.0 visual magnitude should have been recorded on our photographs. This conclusion is somewhat more far-reaching than could be drawn from the 1901 eclipse results and tends to confirm the belief that some other explanation must be sought for the peculiarities in the motions of *Mercury*.

The recent investigations of SEELIGER on the effect of the matter concerned in the zodiacal light upon the inner planets seem to show that the observed outstanding perturbations in the motions of *Venus* and *Mars*, as well as those of *Mercury*, can be sufficiently accounted for upon a reasonable assumption of the distribution of such matter about the Sun. Should this explanation be confirmed, the only further need to continue the intramercurial search will be for the purpose of determining whether there are *any* asteroidal bodies in that region. A considerable number of such bodies might exist without their combined mass being sufficient to produce appreciable disturbances in the motions of the planets.

C. D. PERRINE.

NOTE ON COMET *b* 1907 (MELLISH).

A telegram announcing the discovery of a new comet by Mr. MELLISH, at Madison, Wisconsin, was received here on the afternoon of April 15, 1907. Observations were secured by the writer with the 12-inch telescope on the nights of April 15th, 16th, 17th, and 29th, and with the 36-inch on April 30th and May 7th. On the first three nights the comet was visible in the 3-inch finder, though faint on the third night on account of increasing moonlight. It was, however, a difficult object to measure because of its diffuseness and irregularity of outline. Examination with the 36-inch telescope on April 16th showed a broad fan-shaped tail in the south-preceding quadrant that could be traced about 6′ from the coma, which